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**United States Patent** [19]

Fukushima et al.

[11] **Patent Number:** 5,751,135[45] **Date of Patent:** May 12, 1998[54] **CHARGING CONNECTOR FOR ELECTRIC VEHICLE**

7-65900 3/1995 Japan .

[75] Inventors: **Hiroataka Fukushima; Toshiaki Hasegawa**, both of Shizuoka, Japan[73] Assignee: **Yazaki Corporation**, Tokyo, Japan[21] Appl. No.: **753,497**[22] Filed: **Nov. 26, 1996**[30] **Foreign Application Priority Data**

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[51] **Int. Cl.<sup>6</sup>** ..... **H01R 13/62**[52] **U.S. Cl.** ..... **320/107; 439/476.1**[58] **Field of Search** ..... 320/2, 107; 439/34, 439/152, 476.1, 488, 489, 490; 362/800[56] **References Cited****U.S. PATENT DOCUMENTS**

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*Primary Examiner*—Peter S. Wong  
*Assistant Examiner*—Gregory J. Toatley, Jr.  
*Attorney, Agent, or Firm*—Armstrong, Westerman, Hattori, McLeland & Naughton

[57] **ABSTRACT**

In a charging connector device for an electric vehicle composed of a power supplying connector and a power receiving connector, an indicator lamp of a two color type is set in an illumination chamber within a case body of the power supplying connector. One color of the two colors is used for illumination. The power supplying connector includes a locking lever and a microswitch. When both connectors are provisionally coupled with each other, a securing piece at the one end of the locking lever runs over a securing protrusion of the power receiving connector so that the pressing portion at the other end of the locking lever presses a switch spring of the microswitch to be turned off, thereby giving rise to no energization of the charging connector device. When both connectors are completely coupled with each other, the lever is elastically restored by the action of a coil spring, thus energizing the connector device.

**5 Claims, 14 Drawing Sheets**